

REMARKS

Objection to the Drawings

In the Office Action Summary (Item 10) the statement is made that the drawings are objected to by the Examiner. Applicant asserts that the present drawings are identical to those of the companion case, now issued as US Patent No. 6,917,785. Since the drawings were accepted in that case, Applicant does not know why they would be objected to in this one. If necessary, as part of the issuance procedures, Applicant will submit another set of the drawings accepted in the 6,917,785 case.

Paragraph 1 (Response to Arguments)

The Examiner restates several previously taken positions in this section. Like the Applicant and counsel, the Examiner is no doubt becoming very weary of saying the same things over and over again in response to essentially the same arguments. However, Applicant believes that there are fundamental misunderstandings and misinterpretations which must be addressed and overcome so that we may get to the actual substance of the invention and to the proper choice of words to define the invention in a way that can be understood. Therefore, Applicant tries to address some of these fundamental differences in interpretation and understanding below, in hopes of breaking the conceptual logjam.

Any study of the teachings and principles of Hershey versus the present invention makes it abundantly clear that these are not even remotely the same concept or approach. Only in the broadest and most vague terms are the systems related to the same thing, that being delivering some variety of information from one location within a building to another location (or, in Applicant's case to multiple locations) using the conductive framework of the building as a conduit. This is not a new or unique concept, and Applicant does not attempt to claim it as such. Applicant does not attempt to encompass the methods or structures of Hershey, nor does Applicant go further to try to capture the communications method described in the words of the old popular song. [*Knock three times on the ceiling if you want me. Twice on the pipe, if the answer is "No".*] Applicant has a very specific definition of the invention, and one which does not overlap or bear any meaningful resemblance to the teachings of the prior art.

Of course the principal source of confusion relates to just what the form of Applicant's "quasi-static, non-propagating electromagnetic field" may be. As has been set forth previously, *ad nauseum*, it is now known that this really means a field of "evanescent" waves. The Examiner has taken the unshakeable position, whether rightly or wrongly, that since this term is not used in the original disclosure it, and the associated concepts, cannot have any relevance to the discussion and understanding of the invention. Therefore, for the purposes of this examination by this Examiner, we are limited to the terms set forth in the specification. Here is where the interpretations and understandings diverge.

Since the specification and drawings are identical in the Continuation application 10/836,887 (published as US 2004/0266334 A1) and since that version has conveniently numbered paragraphs, Applicant refers to numbered paragraphs in the following discussion in order to maximize clarity.

The Examiner appears to be "hung up" on the concepts and terms "near field" and "far field" when it comes to "propagation". Although these terms have some relevance to one aspect of Applicant's field, they are only relevant to that aspect and are not defining principles of the invention. They are not used by Applicant to encompass the definition of the invention and whether or not these terms apply to Hershey is not determinative of the interpretation of the present claims and the relevance of Hershey thereto.

Applicant defines the invention in the specification in numerous locations. Those most relevant to the concept of the quasi-static electromagnetic field are found in paragraphs 0012, 0014, 0015, 0018, **0019**, **0029**, **0032**, **0033**, 0035, and 0045 with the paragraphs shown in bold being the most definitive. It is noted that Applicant never defines the invention in terms of "near-field", but, in paragraphs 0032 and 0033, defines the field as being clearly distinguishable from the "far-field" conventional system shown in Fig. 1 and described in paragraph 0031. It is not the spatial opposite of "far-field" (which the Examiner defines as "near-field") but is fundamentally different in other ways, the most salient being that it does not propagate through space at all, but is captured within a volume to form a "cavity resonator".

A key to Applicant's invention is that the field created does not propagate or move within the structure. Instead, it remains constant ("quasi-static") while the information travels through the field to locations within the structure. Applicant's field serves the same function, in a different manner, as a carrier wave. This is fundamentally different from the information transfer method of Hershey where the field itself (induction field) travels along the beams from one location to another and delivers the information in that manner. Hershey's field does not

remain in any way static but is both the message and the medium, while Applicant's field is only the medium.

The Examiner discounts the impact of the accidental and irrelevant overlap of grid size to wavelength in Hershey and the present invention. Applicant asserts that this is important, because Hershey does not need or use a grid and it is only because it is situated in a building with a grid already provided that this has any relevance at all to Hershey. Hershey would work just fine with a straight girder extending directly from top to bottom of the building, regardless of any other aspect or conductive structure. The grid aspect is irrelevant to the teaching and operation of Hershey, which means that Hershey does nothing to teach or "make obvious" anything related to the present invention. Hershey does indicate that the conductive grid interferes with other methods of electromagnetic communication known to Hershey, which is why his method is selected, but Hershey does not take advantage of the grid in any way except as a conductive pathway from one location to another, a pathway that does not need to be in the form of a grid.

The Examiner also totally discounts the importance of limiting language present in Applicant's claims because it is located in the "preamble". Applicant notes that claims are to be interpreted as a whole and that all components of the claim, including the preamble, are important. Particularly in categorizing prior art as anticipatory under Section 102, the basic definition of the invention, as included in the preamble, cannot be discounted. Since Hershey's system does not even meet the base definition or serve the same purpose, it cannot anticipate the present invention as claimed.

Finally, the Examiner continues to refer to Column 4, lines 1-3 of Hershey as teaching the use of radio waves and "communication with a wireless network". Applicant again asserts that this is a total misinterpretation of what Hershey is saying in that section. To quote from Hershey: "The collected data is then transmitted, e.g. via radio, to a central station using a transceiver externally located with respect to the building frame 10, for example, on top of the building frame." (Column 3, line 67- Column 4, line 3, emphasis added). The radio is not part of the Hershey system at all but is a follow up and add on to the Hershey system. By telling the world that the radio communication must be situated externally to the building frame Hershey is admitting that it does not work within the building frame. Accordingly, the Examiner's continued insistence that Hershey teaches the use of radio frequency in his inductive system cannot withstand scrutiny.

Paragraph 2 (Claim Rejections – 35 USC §102)

The Examiner, in this section paragraph, has rejected the claims (14, 15 and 17) on the basis that they are perceived to be anticipated by *Hershey* (US 6,329,928). Applicant continues to vigorously contest this position.

There are three immediately clear reasons why *Hershey* does not anticipate Applicant's claimed structure and method of claim 14. These are:

- 1) *Hershey* does not show an "electromagnetic field system suitable for use with wireless communication devices";
- 2) *Hershey* does not disclose a "means for generating a quasi-static non-propagating electromagnetic field"; and
- 3) *Hershey* does not disclose a "frequency which is selected such that the dimension of said grid opening is small relative to the wavelength of the frequency signal".

The issues relating to points 1) and 2) above have been significantly discussed previously, particularly in the preceding section. However, point 3) deserves further discussion. While the wavelength of the signal utilized by *Hershey* (30 Hz frequency = 1×10^7 m wavelength)) is unquestionably much longer and greater than the dimension of the applicable grid it is not selected for this reason, as required by the claim language. Applicant finds no teaching or disclosure in *Hershey* which bases the choice of frequency on the relation between the wavelength and the grid size. Therefore, *Hershey* does not anticipate this limitation in the base claim or the dependent claims.

With respect to claim 15, again the strict spatial relationship is such that the wavelength is greater than twice the dimension of the grid opening size, but there is nothing to indicate that it is "selected" for this relationship.

With respect to claim 17, as discussed above, *Hershey* uses radios only outside of his system, and not as a part thereof. *Hershey's* radios are external to his system and use conventional communication methods, unrelated to the induction field generated within the building structure.

Applicant's invention is stated in terms which clearly distinguish it from any prior art teachings. The limitations on grid size and the relationship between such and the wavelength of signals suitable for real time communication are clearly stated. No prior art teaches or implies anything of this nature.

Paragraph 3 (Claim Rejections – 35 USC §103)

The Examiner rejects claims 16, 18 and 19 based on the combination of Hershey and Iwata (US patent No. 4,462,113). For the reasons discussed above and below, these rejections are not well founded.

As shown above and in earlier arguments, Hershey not only fails to use radio frequency communications (3 to 400 Megahertz) but also actively teaches why this is not feasible. Hershey, at column 3, lines 13-18 specifically indicates that radio frequency transmission within building structures is impractical. Therefore, Hershey teaches away from any combination using these frequencies, and does not in any way make such a combination “obvious”.

Similarly, Iwata teaches away from this. Iwata, at column 2, lines 11-62, explains why radio frequency communication within buildings is impractical, as a lead-in to Iwata’s own approach. Therefore, there is again no teaching to the effect of combining the concepts.

In addition, the Examiner misquotes and misconstrues Iwata as to the teachings. The Examiner indicates that Iwata, at Column 4, line 14- Column 5, line 15 teaches using communication within a building at a frequency range of 100-400 MHz. A reading of these sections of Iwata shows that this is incorrect. Rather than teaching the use of frequencies in the Megahertz (MHz) range, Iwata instead teaches using 100-400 Kilohertz (KHz) [see also Fig. 3 of Iwata.]. This is more than an order of magnitude different from Applicant’s claimed range which, as is shown above, is actively taught away from in the other portions of the Iwata disclosure.

Accordingly, the rejections under Section 103 are not well taken and should be withdrawn.

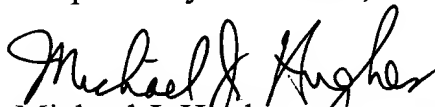
Serial No.: 09/340218
Electromagnetic Field Communications System, etc.
Chadwick, George G.

Ex. West, Lewis G.
Art Unit: 2682
Att. Ref. 60607.300101

Conclusion

Having responded to all of the paragraphs of the Office Action, Applicant respectfully submits that the Application is now in condition for allowance. Applicant therefore respectfully requests that a Notice of Allowance be forthcoming at the Examiner's earliest opportunity. Should the Examiner have any questions or comments with regard to this amendment, a telephonic conference at the number set forth below is respectfully requested.

Respectfully submitted,



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CERTIFICATE OF MAILING (37 CFR 1.8(a))

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited on April 9, 2004 with the U.S. Postal Service as first class mail in an envelope addressed to: MS Non Fee Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: 17 August 2005



Patricia Beilmann